

Claims:

507  
B1

1. A coupler having a first port and a second port comprising:  
a first interface circuit connected to said first port for interacting with a telephone answering system;

5 a second interface circuit connected to said second port;  
an encryption module that is interposed between said first interface circuit and said second interface circuit for encrypting voice information that is received at said first port for delivery to said second port; and

10 a controller for coupling said first interface circuit, said encryption module, and said second interface circuit, causing ringing signals to be applied by said first interface circuit to said first port in response to a verified request from said second port to gain access to information in said telephone answering system.

15 2. The coupler of claim 1 where said encryption module encrypts all signals set for delivery to said second port.

20 3. The coupler of claim 1 where said encryption module, in response to signals from said controller, encrypts some signals set for delivery to said second port, and leaves other signals set for delivery to said second port unencrypted.

4. The coupler of claim 1 where said encryption module decrypts signals arriving from said second port.

25 5. The coupler of claim 1 where said encryption module decrypts signals arriving from said second port to form recovered signals, and said controller analyzes said recovered signals.

30 6. The coupler of claim 1 where said first port is an analog port adapted for connection to a telephone-answering device.

7. The coupler of claim 6 where said second port is a port adapted for transmitting and receiving information in digital form.

8. The coupler of claim 1 where said request to gain access is verified when a signal received at said second port and decrypted by said second module is recognized as an access request.

9. The coupler of claim 1 where said request to gain access is verified when a signal received at said second port includes a password that is recognized by said controller as *bona fide*.

10. The coupler of claim 1 where said controller causes application of DTMF codes to said first port in response to control signals arriving at said second port.

11. The coupler of claim 10 where, in response to some control signals arriving at said second port said controller modifies its operating characteristics.

12. The arrangement of claim 1 wherein said second interface circuit is adapted to send digital signals modulated onto an analog carrier to said output port, and to receive digital signals modulated onto an analog carrier from said output port.

13. The coupler of claim 1 wherein said encryption module is implemented by means of an executing program on said controller.

14. An arrangement comprising a telephone answering system having an analog port, and a coupler comprising:

a first interface circuit within said coupler connected to said analog port;

a second interface circuit connected to an output port of said coupler;

an encryption module interposed between said first interface circuit and said second interface circuit for encrypting voice information that is received at said analog port for delivery to said output port; and

a controller for coupling said first interface circuit, said encryption module, and said second interface circuit, causing ringing signals to be applied by said first interface circuit to said analog port in response to a verified request from said second port to gain access to information in said telephone answering system.

5           **15.** The arrangement of claim **14** wherein said second interface circuit is adapted to send digital signals modulated unto an analog carrier to said output port, and to receive digital signals modulated unto an analog carrier from said output port.

10           **16.** A coupler comprising:

a first port;

a second port;

a third port;

15           a first interface circuit connected to said first port for interacting with a telephone answering system;

a second interface circuit connected to said second port;

an encryption module that is interposed between said first interface circuit and said second interface circuit for encrypting voice information that is received at said first port for delivery to said second port; and

20           a controller for coupling said first interface circuit, said encryption module, and said second interface circuit, and also connected to said third port, applying a ringing signal to said third port in response to a verified request arriving at said second port to gain access to information in said telephone answering system, and causing said first interface circuit to apply analog signals to said first port in response to other control  
25           signals arriving at said second port.

**17.** A coupler comprising:

a first port;

a second port;

a controller communicating digitally with said first port, said controller receiving a digitized voice signal from said first port and encrypting said digitized voice signal to form an encrypted voice signal; and

an interface circuit interposed between said controller and said second port, for receiving said encrypted voice signal, conditioning the encrypted voice signal, and applying the conditioned encrypted voice signal to said second port.

**18.** A telephone answering system comprising:

a first port,

an interface circuit connected to said first port and conditioned for communication with a telephone instrument connected to said first port;

a controller for interacting with said interface circuit, said controller having a memory and program modules stored in said memory, including a telephone answering program module; and

an interface circuit coupled to said controller, for interfacing with a second port of said telephone answering system;

where said controller interacts with said first port, under control of said telephone answering software module, via said interface circuit, to store messages within said memory, and said controller interacts with said second port to (a) receive a request to send messages stored in said memory, (b) confirm that said request is *bona fide*, (c) retrieve a message from said memory, (d) encrypt said message with said encryption program module to form an encrypted message, and (e) send said encrypted message to said second port.

**19.** The answering system of claim 18 where said request is deemed *bona fide* when a decryption of said request with said encryption program module yields a valid request.

**20.** The answering system of claim 18 where said request is deemed *bona fide* when it includes a valid password.

21. The system of claim 18 where said controller sends messages to said second port pursuant to a dialog of messages sent to, and received from, said second port.

22. The system of claim 18 further comprising a module that performs encryption  
5 of signals that are sent to said second port.

23. The system of claim 22 where said module that performs encryption of  
signals that are sent to said second port is a program module that is stored in said  
memory.  
10

24. The system of claim 22 where said module that performs encryption of  
signals that are sent to said second port also performs decryption of signals arriving at  
said second port.

25. The system of claim 22 where said encryption module is a circuit that is  
distinct from said controller.  
15

26. The system of claim 22 where said encryption module is a software module  
that is executed by said controller.  
20

27. The system of claim 22 where said encryption module is physically part of  
said interface circuit.

28. The system of claim 22 wherein said encryption module decrypts signals  
arriving from said second port, via said second interface circuit.  
25

29. An arrangement for retrieving messages from a telephone-answering system  
comprising:

a network,  
a user device,  
30

a second coupler for receiving said encrypted signals from said network, decrypting the encrypted signals to form recovered signals, and applying said recovered signals to said telephone-answering system.

10

15

20

25

system comprising the steps of:

ascertaining whether said message corresponds to a *bona fide* access request;

when said step of ascertaining determines that said message corresponds to a *bona fide* access request, forwarding an alert to a second port that is conditioned to place a telephone answering system connected to said second port in a message retrieval mode; communicating prompt messages received from said second port to said first port; communicating response messages received from said first port; encrypting stored messages received at said second port in response to said response messages to form encrypted messages; and communicating said encrypted messages to said first port.

36. The method of claim 35 wherein said communicating prompt messages includes encrypting said prompt messages prior to applying the encrypted prompt messages to said first port.

37. The method of claim 35 wherein said communicating response messages received from said first port includes decrypting said response messages to form decrypted response messages, prior to applying said decrypted response messages to said second port.

38. The method of claim 35 wherein said step of ascertaining whether said message corresponds to a *bona fide* access request comprises decrypting said message received at said first port and concluding that said message is a *bona fide* access request when said step of decrypting yields a preselected message.

39. The method of claim 35 wherein said step of ascertaining whether said message corresponds to a *bona fide* access request comprises: identifying a user from said message; selecting a key based on identity of said user, and decrypting said message received at said first port, with assistance of said key, and concluding that said message is a *bona fide* access request when said step of decrypting yields a preselected message.

40. A method carried out in a coupler, for accessing a telephone-answering system comprising the steps of:

receiving a message at a first port;

ascertaining whether said message corresponds to a *bona fide* access request;

5 when said step of ascertaining determines that said message corresponds to a *bona fide* access request, entering a message retrieval mode;

communicating prompt messages to said first port;

receiving response messages from said first port;

encrypting a stored message retrieved in response to said response messages to

10 form an encrypted message; and

communicating said encrypted message to said first port.

41. A method carried out in a coupler, for accessing a telephone-answering system comprising the steps of:

15 receiving a message at a first port;

ascertaining whether said message corresponds to a *bona fide* access request;

when said step of ascertaining determines that said message corresponds to a *bona fide* access request, forwarding an alert to a second port that is conditioned to place a telephone answering system connected to said second port in a message retrieval mode;

20 communicating prompt messages received from said second port to said first port;

communicating response messages received from said first port;

receiving a message from said first port; and

communicating said message to said second port.

25 42. The method of claim 41 wherein said step of communicating said message to said second port includes a step of decrypting the message received from said first port.

43. A method carried out in a coupler, for accessing a telephone-answering system comprising the steps of:

30 receiving a message at a first port;

ascertaining whether said message corresponds to a *bona fide* access request;



when said step of ascertaining determines that said message corresponds to a *bona fide* access request, entering an active state;

communicating a prompt message to said first port;

receiving a response code from said first port;

5 receiving a message from said first port; and

storing said message.

44. The method of claim 43 wherein said step of storing said message includes a step of decrypting the message received from said first port.

0999625-070501  
T05040-5296860